



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,704	12/17/2001	Tatsuya Andoh	217050US0XCONT	8084

22850 7590 03/11/2005

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER	
ALVO, MARC S	
ART UNIT	PAPER NUMBER
1731	

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/015,704

Applicant(s)

ANDOH ET AL.

Examiner

Steve Alvo

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9,10,13,15-24,27 and 29-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9,10,13,15-24,27 and 29-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2-13-04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

*Re*

Art Unit: 1731

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 13, 2005 has been entered.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 10, 15-21, 23 and 24 and 29-33 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese Patent Application 1995-189153 (cited in specification, page 4, lines 6-16) in view of EP 0 903 436 or STIGSSON et al.

Japanese Patent Application 1995-189153 teaches a polysulfide cooking methods using 0.005-3.00% of a anthraquinone anthracene or hydroanthraquinone compounds, using 13-25% weight active alkali and 10-30% sulfidity with 13-25% of the active alkali being polysulfide. The Examples use "DDAN" as the anthraquinone compound which is 1, 4 dihydro 9,10 anthraquinone, which has an EA=0.154 V. Japanese Patent Application 1995-189153, teaches using 1-ethyl and 2-methyl anthraquinone compounds. If the exact anthraquinone claimed is not taught by Japanese Patent Application 1995-189153 then similar derivatives of anthraquinone, hydroanthraquinone and anthracene would have been obvious to the routineer as their alternativeness as digesting assistants is taught by Japanese Patent Application 1995-189153.

Art Unit: 1731

The steps of producing the composition can not be given probative weight in a product claim, e.g. claim 34 weight can not be given to how the liquor is produced. See Japanese Patent Application 1995-189153, Office translation, page 5, [0031] for sodium sulfide concentration of 12.0 g/calculated as  $\text{Na}_2\text{O}$  and a polysulfide concentration of 5.9 g/l. EP 0 903 436 or STIGSSON et al teaches increasing polysulfide concentration in pulping liquors to greater than 10 g/l enhances polysulfide stabilization and significantly increases the yield (column 2, lines 8-8-12 and column 3, lines 24-26 and column 3, lines 31-35). It would have been obvious to stabilize the polysulfide of Japanese Patent Application 1995-189153 and significantly improve the pulp yield by using a pulping liquor having a polysulfide concentration greater than 10 g/l as taught by EP 0 903 436 or STIGSSON et al.

Claims 13, 22, 27 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 1995-189153 in view of EP 0 903 436 or STIGSSON et al as applied to claim 9 above, and further in view of WO 97/41295 or ADMITTED PRIOR ART (specification, page 12, 4-14).

WO 97/41295 or the ADMITTED PRIOR ART teaches producing polysulfide-pulping liquor by subjecting alkaline liquor, e.g. white liquor, to electrolytic oxidation. It would have been obvious to the routineer to produce the polysulfide liquor of Japanese Patent Application 1995-189153 by the known method of electrolytic oxidizing alkaline liquor, e.g. white liquor, taught by WO 97/41295.

The 132 Declaration of Mr. Tatsuya Andoh in the Table (Study B) on page 3 has compared the process of Japanese Patent Application 1995-189153 (Comparative Example 5) to the instant process (Example No. 1) and found a 0.9% increase in yield when a high

Art Unit: 1731

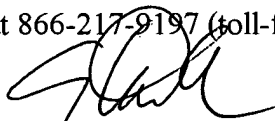
concentration of polysulfide is used, as the decomposition of polysulfide is suppressed. This increase of yield and stabilization of polysulfide would have been expected from the teachings of newly applied EP 0 903 436 or STIGSSON et al.

Applicant's arguments have been considered, but are not convincing as the use of pulping liquors having greater than 10 g/l of polysulfide would have been obvious from the teachings of EP 0 903 436 or STIGSSON et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Alvo whose telephone number is 571-272-1185. The examiner can normally be reached on 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steve Alvo  
Primary Examiner  
Art Unit 1731

msa